

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims of this application:

Listing of Claims:

Claims 1-19 (Canceled).

20. (Currently amended) A method according to Claim [[19]] 21 wherein the electric stimulus comprises one of a defibrillation stimulus and a pacing stimulus.

21. (Previously presented) A method for reducing an occurrence of fibrillation of a heart, comprising:

detecting a premature contraction of the heart for a plurality of heart beats characterized by nonsustained tachycardia; and

applying an electric stimulus to a region of the heart that is likely to contain a fastest activating region, wherein a location of the fastest activating region is determined by:

inducing fibrillation of the heart; and

determining at least one of a monophasic activation potential (MAP) reading associated with the fibrillating heart, a refractory period associated with the heart using premature stimulation, and a power spectrum analysis to provide a spectrum with a peak power at a highest frequency.

22. (Currently amended) A method according to Claim [[19]] 21 wherein the fastest activating region comprises a reentrant region having a refractory period that is less than areas adjacent to the reentrant region.

23. (Currently amended) A method according to Claim [[19]] 21 wherein a first wavefront comprising a mother rotor propagates along a closed pathway on the

fibrillating heart, wherein the first wavefront generates at least a second wavefront that propagates on the fibrillating heart outside the fastest activating region.

24. (Currently amended) A method according to Claim 22 wherein the reentrant region is characterized by a closed pathway of the tissue of the heart ~~comprises a closed pathway on the fibrillating heart.~~

25. (Original) A method according to Claim 24 wherein a wavefront propagates along the closed pathway from a starting point on the closed pathway to an ending point on the closed pathway.

26. (Original) A method according to Claim 25 wherein the starting point and the ending point are adjacent to one another on the closed pathway.

27. (Currently amended) A method for reducing an occurrence of fibrillation of a heart, comprising:

during heart activity characterized by at least one of normal heartbeat activity, premature heartbeat activity, or nonsustained tachycardia activity, applying an electrical stimulus to a region of the heart determined to contain a fastest activating region, wherein a location of the fastest activating region is determined by determining a refractory period associated with the heart using premature stimulation, determining an activation recovery interval measurement associated with the heart, or determining a Monophasic activation potential (MAP) reading of the heart.

28. (Original) A method according to Claim 27 wherein the fastest activating region comprises a reentrant region having a refractory period that is less than areas adjacent to the reentrant region.

29. (Previously presented) A method according to Claim 27 wherein a first wavefront comprising a mother rotor propagates along a closed pathway on the heart,

wherein the first wavefront generates at least a second wavefront that propagates on the heart outside the fastest activating region.

30. (Currently amended) A method according to Claim 28 wherein the reentrant region is characterized by a closed pathway of the tissue of the heart ~~comprises a closed pathway on the heart.~~

31. (Previously presented) A method according to Claim 30 wherein a wavefront propagates along the closed pathway from a starting point on the closed pathway to an ending point on the closed pathway.

32. (Previously presented) A method according to Claim 31 wherein the starting point and the ending point are adjacent to one another on the closed pathway.

Claims 33-35 (Canceled).

36. (Previously presented) A method for reducing an occurrence of fibrillation of a heart, comprising:

during heart activity characterized by at least one of normal heartbeat activity, premature heartbeat activity, or nonsustained tachycardia activity, applying an electrical stimulus to a region of the heart containing a fastest activating region, wherein a location of the fastest activating region is determined by:

inducing fibrillation of the heart; and

determining at least one of a monophasic activation potential (MAP) reading associated with the fibrillating heart, a refractory period associated with the heart using premature stimulation, and a power spectrum analysis to provide a spectrum with a peak power at a highest frequency.

Claims 37-54 (Canceled).

55. (Previously presented) A system for reducing an occurrence of fibrillation of a heart, comprising:

means for detecting a premature contraction of the heart for a plurality of heart beats characterized by nonsustained tachycardia; and

means for applying an electrical stimulus to a region of the heart not in fibrillation determined to contain a fastest activating region.

56. (Previously presented) A system for reducing an occurrence of fibrillation of a heart, comprising:

means for detecting a premature contraction of the heart for a plurality of heart beats characterized by nonsustained tachycardia;

means for applying an electrical stimulus to a region of the heart not in fibrillation likely to contain a fastest activating region;

means for inducing fibrillation of the heart; and

means for determining at least one of a monophasic activation potential (MAP) reading associated with the fibrillating heart, a refractory period associated with the heart using premature stimulation, and a power spectrum analysis to provide a spectrum with a peak power at a highest frequency.

57. (Original) A system according to Claim 55 wherein the fastest activating region comprises a reentrant region having a refractory period that is less than areas adjacent to the reentrant region.

58. (Previously presented) A system according to Claim 55 wherein a first wavefront comprising a mother rotor propagates along a closed pathway on the heart, wherein the first wavefront generates at least a second wavefront that propagates on the heart outside the fastest activating region.

59. (Currently amended) A system according to Claim 57 wherein the reentrant region is characterized by a closed pathway of the tissue of the heart ~~comprises a closed pathway on the heart.~~

60. (Original) A system according to Claim 59 wherein a wavefront propagates along the closed pathway from a starting point on the closed pathway to an ending point on the closed pathway.

61. (Original) A system according to Claim 60 wherein the starting point and the ending point are adjacent to one another on the closed pathway.

62. (Currently amended) A system for reducing an occurrence of fibrillation of a heart, comprising:

means for applying, during heart activity characterized by at least one of normal heartbeat activity, premature heartbeat activity, or nonsustained tachycardia activity, an electrical stimulus to a region of a heart determined to contain a fastest activating region of the heart, the system further comprising:

means for determining a refractory period associated with the heart using premature stimulation;

means for determining an activation recovery interval measurement associated with the heart; and

means for determining a Monophasic activation potential (MAP) reading of the heart.

63. (Original) A system according to Claim 62 wherein the fastest activating region comprises a reentrant region having a refractory period that is less than areas adjacent to the reentrant region.

64. (Previously presented) A system according to Claim 63 wherein a first wavefront comprising a mother rotor propagates along a closed pathway on the fibrillating heart, wherein the first wavefront generates at least a second wavefront that propagates on the heart outside the fastest activating region.

65. (Currently amended) A system according to Claim 63 wherein the reentrant region is characterized by a closed pathway of the tissue of the heart ~~comprises a closed pathway on the heart.~~

66. (Original) A system according to Claim 65 wherein a wavefront propagates along the closed pathway from a starting point on the closed pathway to an ending point on the closed pathway.

67. (Original) A system according to Claim 66 wherein the starting point and the ending point are adjacent to one another on the closed pathway.

Claims 68-70 (Canceled).

71. (Original) A system according to Claim 62 further comprising:
means for inducing fibrillation of the heart; and
means for determining a refractory period associated with the heart using premature stimulation.

72. (Previously presented) A system for reducing an occurrence of fibrillation of a heart, comprising:

means for applying, during heart activity characterized by at least one of normal heartbeat activity, premature heartbeat activity, or nonsustained tachycardia activity, an electrical stimulus to a region of a heart that is likely to contain a fastest activating region of the heart;

means for inducing fibrillation of the heart; and

means for determining at least one of a monophasic activation potential (MAP) reading associated with the fibrillating heart, a refractory period associated with the heart using premature stimulation, and a power spectrum analysis to provide a spectrum with a peak power at a highest frequency.

Claims 73-90 (Canceled).

91. (Previously presented) A computer program product for reducing an occurrence of fibrillation of a heart, comprising:

a computer readable medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code configured to detect a premature contraction of the heart for a plurality of heart beats characterized by nonsustained tachycardia;
and

computer readable program code configured to apply a defibrillation stimulus to a region of the heart not in fibrillation determined to contain a fastest activating region.

92. (Original) A computer program product according to Claim 91 further comprising computer readable program code configured to determine the region of the heart likely to contain the fastest activating region including:

computer readable program code configured to induce fibrillation of the heart;
and

computer readable program code configured to determine at least one of a monophasic activation potential (MAP) reading associated with the fibrillating heart, a refractory period associated with the heart using premature stimulation, and a power spectrum analysis to provide a spectrum with a peak power at a highest frequency.

93. (Original) A computer program product according to Claim 91 wherein the fastest activating region comprises a reentrant region having a refractory period that is less than areas adjacent to the reentrant region.

94. (Previously presented) A computer program product according to Claim 91 wherein a first wavefront comprising a mother rotor propagates along a closed pathway on the fibrillating heart, wherein the first wavefront generates at least a second wavefront that propagates on the fibrillating heart outside the fastest activating region.

95. (Currently amended) A computer program product according to Claim 93 wherein the reentrant region is characterized by a closed pathway of the tissue of the heart ~~comprises a closed pathway on the fibrillating heart.~~

96. (Original) A computer program product according to Claim 95 wherein a wavefront propagates along the closed pathway from a starting point on the closed pathway to an ending point on the closed pathway.

97. (Original) A computer program product according to Claim 96 wherein the starting point and the ending point are adjacent to one another on the closed pathway.

98. (Previously presented) A computer program product for reducing an occurrence of fibrillation of a heart, comprising:

a computer readable medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code configured to apply, during heart activity characterized by at least one of normal heartbeat activity, premature heartbeat activity, or nonsustained tachycardia activity, an electrical stimulus to a region of the heart not in fibrillation determined to contain a fastest activating region.

99. (Original) A computer program product according to Claim 98 wherein the fastest activating region comprises a reentrant region having a refractory period that is less than areas adjacent to the reentrant region.

100. (Previously presented) A computer program product according to Claim 98 wherein a first wavefront comprising a mother rotor propagates along a closed pathway on the fibrillating heart, wherein the first wavefront generates at least a second wavefront that propagates on the fibrillating heart outside the fastest activating region.

101. (Currently amended) A computer program product according to Claim 99 wherein the reentrant region is characterized by a closed pathway of the tissue of the heart ~~comprises a closed pathway on the fibrillating heart.~~

102. (Original) A computer program product according to Claim 101 wherein a wavefront propagates along the closed pathway from a starting point on the closed pathway to an ending point on the closed pathway.

103. (Original) A computer program product according to Claim 102 wherein the starting point and the ending point are adjacent to one another on the closed pathway.

104. (Original) A computer program product according to Claim 98 further comprising computer readable program code configured to determine the region of the heart likely to contain the fastest activating region including:

computer readable program code configured to determine a refractory period associated with the fibrillating heart using premature stimulation.

105. (Original) A computer program product according to Claim 98 further comprising computer readable program code configured to determine the region of the heart likely to contain the fastest activating region including:

computer readable program code configured to determine an activation recovery interval measurement associated with the fibrillating heart.

106. (Original) A computer program product according to Claim 98 further comprising computer readable program code configured to determine the region of the heart likely to contain the fastest activating region including:

computer readable program code configured to determining a Monophasic activation potential (MAP) reading associated with the fibrillating heart.

107. (Previously presented) A computer program product for reducing an occurrence of fibrillation of a heart, comprising:

a computer readable medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code configured to apply, during heart activity characterized by at least one of normal heartbeat activity, premature heartbeat activity, or nonsustained tachycardia activity, an electrical stimulus to a region of the heart not in fibrillation that is likely to contain a fastest activating region;

computer readable program code configured to induce fibrillation of the heart;
and

computer readable program code configured to determine at least one of a monophasic activation potential (MAP) reading associated with the fibrillating heart, a refractory period associated with the heart using premature stimulation, and a power spectrum analysis to provide a spectrum with a peak power at a highest frequency.